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TRUCK-CROP INSECT INVESTIGATIONS

J. E. Graf, Entomologist Acting in Charge

D. C. Parman, Investigations of Insects Affecting the Health of Animals, in charge of the Bureau station at Uvalde, Tex., stopped over in Birmingham, Ala., September 20 and 21, to make a survey of the ox warble in that section, and was an interested visitor of the Mexican Bean Beetle Laboratory.

L. L. English, junior entomologist, engaged since March, 1921, on research investigations of the Mexican bean beetle, has resigned to accept a graduate assistantship at the Iowa Agricultural College, Ames, Iowa, where he will study for his doctor's degree. Mr. English will make special investigations of insecticides, especially stomach poisons, to which work he has devoted most of his time in the field for the last three seasons.

E. G. Smyth, special field agent in Mexico, is making frequent shipments of a tachinid parasite of the immature stages of the Mexican bean beetle to the Birmingham laboratory and to the Estancia, N. Mex., laboratory. Several hundred parasites have been received at each place.

Through the cooperation of the Ohio Agricultural Experiment Station, A. E. Miller, in charge of the Chillicothe, Ohio, laboratory, has done considerable scouting in the south-central portion of the State, and has found the Mexican bean beetle in Ross, Jackson, and Gallia Counties, in addition to finding it in some of the other counties previously reported to the Bureau. Mr. Miller reports that the insect is quite numerous in certain localities, and in some instances has damaged foliage of beans to a considerable extent.

Luther Brown, formerly assistant entomologist of the Georgia State Board of Entomology, and now connected with this Bureau, reports the spread of the Mexican bean beetle in Thomas County, Ga. In 1922 the insect covered only about 16 square miles, while it is now known to cover at least 250 square miles.

Practical field tests on over a hundred acres of beans at Newport, Tenn., have further demonstrated the success of the control of the Mexican bean beetle by spraying with magnesium arsenate. Good results have also been obtained by several truck growers about Chattanooga, Tenn., cooperating with the Mexican Bean Beetle Laboratory in the control of the Mexican bean beetle.

J. E. Dudley, Jr., entomologist, in charge of pea aphid investigations, Madison, Wis., attended a preliminary pea aphid conference in Chicago during the middle of September, at which were present representatives of the pea canners and interested State entomologists. He reviewed his season's work before this committee and made preliminary plans for next season's work.

W. D. Mecum, field assistant, who has been connected with the Madison, Wis., laboratory for the last five summer seasons, has resigned.

M. M. High, who, for a number of years, has been engaged in the study of truck-crop insects in southern Texas, including the sweet-potato weevil, is planning to transfer his laboratory from Kingsville, Tex., to Poplarville, Miss., where he will be engaged on a study of the new Australian tomato weevil, in addition to completing his biological work on the sweet-potato weevil.

CEREAL AND FORAGE INSECT INVESTIGATIONS

G. A. Dean, Entomologist in Charge

Prof. Geo. A. Dean formed one of the party of entomologists, county agents, and farmers making an annual inspection of the European corn borer in northern Ohio and southern Ontario, September 7 and 8. The party was limited as to numbers, only 53 persons being present, including six Canadian entomologists. D. J. Caffrey of the Arlington, Mass., laboratory, and W. H. Larrimer of the LaFayette, Ind., laboratory, also were present. The trip proved very profitable and informing to all members of the party.

W. R. Walton returned to duty on September 22, considerably improved in health, and in the absence of Prof. George A. Dean, is in charge of the Washington desk.

Thos. R. Chamberlin spent a few days in Washington early in September en route from France to the Salt Lake City, Utah, laboratory. Mr. Chamberlin has been for two years in Europe studying the parasites of the alfalfa weevil, and has completed arrangements for the shipment of certain of these from Europe to the areas infested by the alfalfa weevil in this country.

FOREST INSECT INVESTIGATIONS

F. C. Craighead, Forest Entomologist in Charge

Dr. F. C. Craighead reported for duty as Forest Entomologist Sept. 14.

Dr. H. E. Burke reports considerable damage to the native forest of Monterey pine at Pacific Grove, Calif., by a defoliating sawfly. S. A. Rohwer has determined the sawfly as Itycorsia brunnicans Nort., stating that the species has not been reared and that practically nothing is known of its habits. Further study by Doctor Burke has yielded the eggs of the species, the habits of the young larvae, and the fact that nicotine dust promises to be more effective in control than lead arsenate.

R. A. St. George is in the Southern States investigating the status of the southern pine beetle and conducting cooperative experimental studies with various companies to prevent and check injury to crude and finished forest products.

Dr. A. D. Hopkins, former Forest Entomologist, is now devoting all of his time to research in bioclimatics at a permanent field station of the Bureau at Mineral Wells, W. Va. He is assisted by M. A. Murray.

SOUTHERN FIELD-CROP INSECT INVESTIGATIONS

J. L. Webb, Entomologist Acting in Charge

Reports reaching the Washington office during September indicate that adults of the cotton leafworm, which has heavily infested the Cotton Belt this season, have now reached the New England States. Moths have also been observed in Washington.

F. S. Chamberlin, of the Tobacco Insect Laboratory at Quincy, Fla., spent several days in Washington during the month, working up notes and doing library work.

D. C. Parman of the Uvalde, Tex., laboratory, recently made a trip through the Gulf States, investigating various species of insects injurious to domestic animals in that region.

The following temporary employees engaged in boll weevil control experiments resigned during the month: C. A. Bolt, W. H. Craven, J. H. Hunter, C. Ling, L. C. McCraw, A. L. McCrary, W. D. McGowan, F. G. Martin, M. C. Martin, R. L. Martin, D. L. Outen, S. D. Reid, T. D. Rickenbaker, T. S. Smith, J. N. Todd, A. M. Bacot, E. B. Barnett, G. R. Fulton, L. F. Greer, S. B. Hendricks, L. P. Hodges, B. C. House, D. E. Lott, T. E. McNeel, A. L. Monroe, R. W. Necaïse, S. Sevier.

FRUIT INSECT INVESTIGATIONS

A. L. Quaintance, Entomologist in Charge

Oliver I. Snapp gave an address at the annual meeting of the Georgia State Horticultural Society at Cornelia, Ga., on August 23. He spoke on spray materials and practice.

From present indications it looks as though 500,000 pounds of para-dichlorobenzene will be used around peach trees in the Southeast this year for the control of the peach borer. Most of this amount will be used in Georgia, where a large percentage of the commercial peach growers will use the chemical. Last season about 250,000 pounds were used in the Southeast. These figures are indicative of the satisfactory results which have been obtained with the material, and the increased interest in its utilization.

C. H. Hadley has now severed his connection with the Japanese beetle project, to accept the position of Director of the Bureau of Plant Industry of the Pennsylvania State Department of Agriculture.

L. B. Smith has been placed in charge of the Japanese beetle project.

W. W. Yothers, who spent a little time in Washington, has now returned to his headquarters at Orlando, Fla.

Luther Brown, a graduate of Mississippi Agricultural College, has been appointed plant quarantine inspector, and will be assigned to duty at River-ton, N. J., in connection with Japanese beetle inspection work.

BEE CULTURE INVESTIGATIONS

E. F. Phillips, Apiculturist in Charge

Dr. Arnold P. Sturtevant, who for several years has had charge of the bee disease work of the Bureau, has resigned to accept a position in the Department of Bacteriology of the New York Homeopathic Medical College.

The "bee louse," Braula coeca, a well-known visitant of the bee colony in almost all parts of the world, has been repeatedly imported into the United States on queenbees from foreign countries and as a rule has disappeared promptly after the introduction of the imported queens into full colonies. As a result American beekeepers have believed that this species could not become established in this country. Several years ago it was reported that this species occurs in Carroll County, Md., and another report has been received from an apiary in central Pennsylvania. E. L. Sechrist recently visited Carroll County and found this species in the apiaries of one firm of beekeepers, and it probably occurs to a limited extent elsewhere in the locality. No damage seems to occur in strong, healthy colonies of bees. It is especially noted that if a colony of black bees containing Braula is queenless for a time, when an Italian queen is introduced, she is immediately covered with large numbers of Braula, and the beekeepers claim that in such cases the young Italian queen soon comes to look like and behave like an old worn-out queen. Material was collected and brought to Washington in which many adults and also eggs and pupae were found. Developmental stages were found to occur in tunnels under the capping of sealed honey. Until recently Braula has been supposed to be similar in its mode of development to the sheep tick, which develops to the pupal stage inside the parent. Since Braula deposits eggs, it can not belong to the same series of Diptera as the sheep tick. With the material now at hand it should be possible to establish the relations of this interesting insect to other Diptera.

Bruce Lineburg, A. D. Shaftesbury, and B. Kurrelmeyer, who have been employed during the summer, will return October 1 to Johns Hopkins University, Baltimore, to resume their graduate studies.

The work on the color grading of honey, undertaken in cooperation with the Office of Grades and Standards of the Bureau of Agricultural Economics, has been completed, and an effort is now being made to devise a suitable holder for the color grades. The most troublesome difficulty encountered in this work was to devise materials of the proper color which at the same time have the proper opacity and are color-permanent in solutions. In this work more than 450 samples of typical honeys have been examined for light transmission by the spectro-photometer, constituting the most extensive study of colors of honeys ever undertaken. When models for these graders have been devised, duplicate graders will be deposited with the several inspection offices of the Bureau of Agricultural Economics, and directions will be issued for the manufacture of graders for the trade. It is hoped that this will reduce the number of con-

troversies between buyers and sellers of honey as to its proper color grading.

The work on the coloring materials in honeys of various types, undertaken in cooperation with the Carbohydrate Laboratory of the Bureau of Chemistry, has now reached the stage when it is possible to undertake routine analyses of the samples of honeys from different plant sources collected for the purpose. Five plant pigments have been isolated from honeys examined, occurring in varying proportions in different honeys. The economic purpose of this work is to determine whether there is any reliable correlation between the color grade of honey and its suitability as winter stores for bees in long confinement. Determinations are also being made of honey dextrans.

MISCELLANEOUS

(Items from the National Museum contributed by S. A. Rohwer)

Dr. W. M. Mann left September 17 for Mexico, to continue his investigations of fruit flies in connection with work for the Federal Horticultural Board.

Raymond C. Shannon returned from Panama September 24. Mr. Shannon has been in the Canal Zone since March, devoting most of his time to studying the life history and biology of mosquitoes. He has also secured miscellaneous collections of insects. During part of the summer Dr. H. G. Dyar was in the Canal Zone with Mr. Shannon, and together they have collected immature forms of most of the mosquitoes previously recorded in the Zone. A few of the species which have been recorded are still unknown in the larval stage, and until the collection is carefully studied it is impossible to state whether there are any new forms.

William Schaus recently went to New York to return part of the Lepidoptera from the Galapagos Islands. He took types of 26 new species to have them illustrated for a report of the collections recently made by the Williams expedition. While in New York he secured through purchase and gift some rare species from South America for the National Collection.

Dr. Carlos de la Torre y Huerta, of Cuba, recently visited the National Museum, and while here paid a visit to the Division of Insects to renew his acquaintance with the various members of the section, especially Doctor Mann. Dr. de la Torre has charge of the Natural History Collections in Havana, and supervision over the well-known Gundlach collection.

Field workers are especially requested to forward for the National Collection well mounted specimens of the commoner economic insects. It is especially desired to have these collections accompanied by alcoholic material of the immature stages. Repeated requests for exchanges of commoner economic insects have caused considerable embarrassment, because it is in these forms that the collection seems to be weakest. Some days ago, when requested

to prepare an exchange of some outstanding important species, we were surprised to note that to secure satisfactory material it was necessary to use specimens that were collected years ago when Dr. C. V. Riley was Entomologist. The importance of these exchanges cannot be overestimated, and the immature forms of the commoner species are badly needed for study of the specialists. It is hoped that every reader of this note will consider the matter carefully, and if possible, send such material to the Collection as will be in his judgment of value.

W. J. Gerhardt, of the Field Museum, Chicago, spent two days in Washington studying museum equipment, and visited the Division of Insects to consult with various entomologists.

Word has been received of the safe arrival of Prof. T. D. A. Cockerell and his wife in Boulder, and already a consignment of insects has been received at the Museum. Professor and Mrs. Cockerell narrowly escaped death in connection with the earthquake in Japan. They had boarded the steamship Empress of Australia a few minutes before the earthquake. This steamship was due to leave Yokohama three minutes after the earthquake occurred, but she remained in the harbor for some time assisting in gathering refugees. Her propeller was slightly damaged by the earthquake. When the oil tanks of the Standard Oil Company took fire and the oil spread over the water it looked for some time as if this steamer and all its passengers would be completely destroyed by fire, but by great effort it was removed just in time to avert this catastrophe. Professor Cockerell and his wife later transferred to the steamship President Jefferson and were able to bring some of their more fragile material in their suitcases. On the President Jefferson they were forced to content themselves with very crowded quarters, and slept on the floor of the tea room. Both Professor Cockerell and his wife aided in the work of caring for the refugees, and he reports a very exciting trip. In a letter written on board the President Jefferson he states: "I saw Clausen in Kobe; he was not in Yokohama at time of the earthquake, and has great fears (as well he may) for the safety of his fine collection of 500 species of Japanese Chalcididae left in his house on the Bluff, at Yokohama." From Professor Cockerell's account it seems that his trip to Siberia was very successful, and it is hoped that considerable progress will be made in working up these collections.

Dr. J. M. Aldrich has recently given his extensive collection of Diptera to the National Museum. This collection is the result of Doctor Aldrich's personal study on the Diptera from 1890, and contains types of more than 500 species and named representatives of more than 4000 species. Besides the named material, the collection contains also many undetermined forms, and several hundred species which have been set aside as new. This collection has been housed by the Museum since Doctor Aldrich accepted the position as Associate Curator of the Division of Insects, but during this time has been inactive, and on various occasions part of it has been transferred to the Museum collection. This is one of the finest, most extensive accessions of the Museum collection in recent years.

LIBRARY

Mabel Colcord, Librarian

New Books

Balbani, E. G.

Le phylloxera du chêne et le phylloxera de la vigne, études d'entomologie agricole... Paris, Gauthier-Villars, 1884. 45 p., 11 plates.

Costa Lima, A. da.

Catalogo systematico dos insectos que vivem nas plantas do Brasil e ensalo de bibliographia entomologica brasileira. (Arch. das Esc. Sup. de Agric. e Med. Veter. Nictheroy, v. 6, no. 1-2, p. 107-276. Dec., 1922.)

India. Dept. of Agriculture.

Memoirs. Entomological series. Calcutta, printed and published for the Imperial Dept. of Agriculture in India, by Thacker Spink & Co., 1923.

v. 7, no. 12. Further notes on Pempheres affinis Fst. (the cotton stem weevil). By Edward Ballard.

v. 8, no. 1. Hydrophilidae of India ... By A. d'Orchymont.

v. 8, no. 2. An annotated list of Ichneumonidae in the Pusa collection. By G. B. Dutt.

v. 8, no. 3. A second note on Odonata in the Pusa collection. By F. C. Fraser.

v. 8, no. 4. Notes on Indian Muscidae. 1. Calliphorinae testaceae. 2. Rhiniinae. By Ronald Senior-White.

Metz, C. W.

Genetic studies on *Drosophila virilis* ... 94 p., illus., plates.

(Carnegie Institution of Washington, Publication no. 328.) Literature cited, p. 93-94.

Paillot, A.

Les maladies bacteriennes des insectes --utilisation en agriculture des bacteriennes entomophytes. Paris, Maurice-Mendel editeur, 1922. p. 95-276, illus., 8 plates. Index bibliographique, p. 267-271.

Perret-Maisonnette, A.

L'apiculture intensive et l'élevage des reines... Paris, Maurice-Mendel, 1923. 448 p. incl. illus., plates.

Ross, Ronald.

Memoirs, with a full account of the great malaria problem and its solution. London, John Murray, 1923. 547 p., plates. References, p. 526-536.

Schoyen, T. H.

Beretning om skadeinsektenes optreden i land og havebruket... 1920 og 1921. Kristiania, Geondahl & sons boktrykkeri, 1922. C 78 p.

Tullgren, Alb., and Wahlgren, Einar.

Svenska insekter... hft. 3. Stockholm, P. A. Norstedt & Söners Förlag, 1923. p. 433-812., illus.

